AUTOMATED FOOD ORDERING SYSTEM

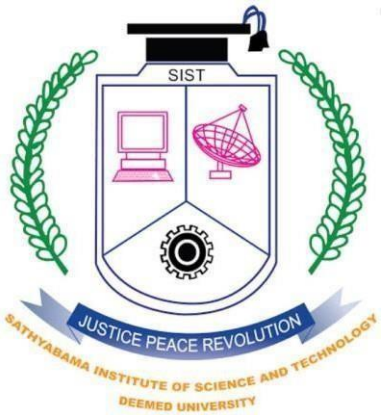
Submitted in partial fulfillment of the requirements for the award of

Bachelor of Engineering degree in Computer Science and Engineering

by

TALLAPALLY VEERA ADIVAGOUD (Reg. No. 38110588)

NALAJALA SIVA SAI KRISHNA (Reg. No. 38110539)



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SCHOOL OF COMPUTING

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with Grade "A" by NAAC

JEPPIAR NAGAR, RAJIV GANDHI SALAI, CHENNAI – 600 119

MARCH – 2022

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited with "A" grade by NAAC
Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai – 600 119
www.sathyabama.ac.in

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

BONAFIDE CERTIFICATE

This is to certify that this project report is the bonafide work of **TALLAPALLY VEERA ADIVAGOUD (Reg. No: 38110588) and NALAJALA SIVA SAI KRISHNA (Reg. No: 38110539)** who carried out the project entitled "**AUTOMATED FOOD ORDERING SYSTEM**" under our supervision from **August 2021** to **March 2022**.

Internal Guide

DR.A.C.SHANTASHEELA

Head of the Department

Dr. L. LAKSHMANAN M.E., Ph.D.,

Dr. S. VIGNESHWARI, M.E., Ph.D.,

Submitted for Viva voce Examination held on _____

Internal Examiner **External Examiner**

DECLARATION

I **TALLAPALLY VEERA ADIVAGOUD** (**Reg No:38110588**) and **NALAJALA SIVA SAI KRISHNA (Reg No: 38110289)** hereby declare that the Project Report entitled **"AUTOMATED FOOD ORDERING SYSTEM"** done by me under the guidance of **DR A.C.SHANTA SHEELA**, **Department of Computer Science and Engineering at Sathyabama Institute of Science and Technology** is submitted in partial fulfilment of the requirements for the award of **Bachelor of Engineering (B.E) degree in Computer Science and Engineering (CSE)**

DATE: 04-03-2022 **TALLAPALLY VEERA ADIVAGOUD**

NALAJALA SIVA SAI KRISHNA

PLACE: CHENNAI **SIGNATURE OF THE CANDIDATE**

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr. T. SASIKALA, M.E., Ph.D., Dean**, School of Computing and **Dr**. **S. VIGNESWARI, M.E., Ph.D., and Dr. L. LAKSHMANAN, M.E., Ph.D., Heads of the Department** of Computer Science and Engineering for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **DR.A.C.SHANTA SHEELA** for her valuable guidance, suggestions and constant encouragementpaved way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the Department of **Computer Science and Engineering** who were helpful in many ways for the completion of the project.

ABSTRACT

The main objective of the Online Food Ordering System is to manage the details of Item Category, Food, Delivery Address, Order, shopping Cart. It manages all the information about Item Category, Customer, Shopping Cart, item Category. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Item Category, Food, Customer, delivery Address. It tracks all the details about the Delivery Address, Order, shopping Cart. The primary reason for the internet-based food conveyance framework is to oversee card characterization data, food, locations, imports and buys. Deal with all data connected with Categories, Customers, Purchase Cards, and Categories. Since the undertaking depends on full administration, it permits you to track down a solitary chief. The objective of the task is to make a manual pruning project to oversee classes, food, clients, and address space. It controls all data connected with conveyance address, request and buy card. A rundown of pre-chosen things will be shown on the kitchen screen and, once supported, will be printed to foster an extraordinary page. This arrangement is a basic and simple method for picking a pre-requested item.

TABLE OF CONTENT

CHAPTER1

CHAPTER-1

INTRODUCTION

1.1 OUTLINE OF THE PROJECT

As well as conveying food on the web, the food is conveyed on the web and conveyed to clients. This is conceivable using innovation-based instalment frameworks. Instalments can be made by client's Visa or charge card. Accordingly, as a feature of this venture, we are fostering a framework that permits our clients to arrange food on the web. With the quick improvement of the Internet and related advancements, an ever-increasing number of chances are arising on the web. Many organizations, many organizations are currently putting vigorously in their internet-based organizations. One of the internet business new companies spend significant time in web-based food conveyance. In this day and age, most cafés center around speedier planning and quicker conveyance than the feasting experience. As of late, most items depend on telephones, yet there are many weaknesses of this framework. Anybody can import anything from anyplace on the Internet and bring it back home. . In any case, when you attempt to see how to move labor and products, the principle thought is the manner by which to pay. At the end of the day, how would you pay for your items and administrations on the web? This is presently prompting a conversation regarding the monetary effect of computerized monetary standards. What are the financial outcomes? Since the world is quickly turning into a worldwide city, the main apparatus in this interaction is correspondence. The primary forward leaps are two cell phone frameworks without a decent line or cell framework (GSM).The web-based conveyance framework was initially utilized in the college cafeteria, yet likewise with all food conveyance exercises. The principle benefit of this framework is that it improves on the method involved with welcoming clients and eateries. Doing the entire dynamic interaction straightforwardly places a strain on the café eventually. When the request is put nearby, it will be handled, chronicled, and the café work area application will be returned in full constant. The program shows everything on the rundown in a basic and simple to-understand way, alongside nitty gritty, point by point data. This permits the eatery staff to show up as fast as could be expected and to be late and baffled with what they need. The primary benefit of this framework is FLEXIBLE ADDRESS.

The project Online Food ordering system is a web based application that allows the administrator to handle all the activities online quickly and safely. Using Interactive GUI anyone can quickly learn to use the complete system. The project Online food order booking system is a web based application that allows the administrator to handle all the activities online quickly and safely. Using Interactive GUI anyone can quickly learn to use the complete system. The administrator doesn’t have to sit and manage the entire activities on paper, and at the same time, the head will feel comfortable to keep check of the whole system. This system will give him power and flexibility to manage the entire system from a single online portal.

1.2 PROBLEM STATEMENT

The main goal is to release automated food ordering system across multiple users every day. One critical challenge of ordering food is the management of the website owners by multiple people. By using the automated food ordering system there is no delay that can happen and the ordered food will be in time because of the perfect organized site. This website can really make the users as well as the people who own restaurants and hotels which are not well known.

1.3 SCOPE OF THE PROJECT

The Scope of the project (Android / web panel based application) are as follows: Food Ordering app can sale Food product, preferred brands, kitchen needs, essential restaurant supplies and more, through this online, onestop Food store. It provides you with a convenient way to sale from your Food shopping app. You can use this app as one big super market app to sale product of your store. This app make easy for user to buy product from store with easy steps and store can get easy order.

CHAPTER -2

LITERATURE SURVEY

Wireless Food Ordering System

In the pass decades, the rapid growing of network and wireless technology did a great impact for how people communicate with each and other remotely. At the same time, this technology also leads different kind industries to change their entire management aspect. F&B industry is one of the industries in the market that apply these technologies into their business processes that assist them to be much more convenience and efficient. From the message above, Wireless Food Ordering System is a system that integrated both concept of intranet and wireless technology (Khairunnisa, K. and Ayob, J., 2009). This system provide user to access the data, information and services from a remote server, which enable user to access the central databases distributed across the restaurant network. Most of the handheld devices have implemented and support wireless technology and thus mobile devices is an ideal hardware device that use to support this system in order to allow user remote access to the database for data retrieval.

Strength

The system eliminates the need for a waiter to take order with pen and paper. Moreover, the waiter only needs to carry the mobile devices for the entire operational hour to perform food order process instead of using pen and paper. While using pen and paper to take order, it bring a lot of troublesome such as the waiter busying in replenish the order paper that they carrying. Other than that, this system also can help in terms of environmentally friendly by reducing the usage of paper.

Weaknesses and Limitations

The limitation would be all the client devices are connected via the wireless access point in order to let client perform data retrieval from the central database. Unfortunately, there might be a problem in wireless signal coverage is not strong enough to cover the whole restaurant area and thus cause the waiter's mobile device disconnect from the server.

Online Ordering System

In our generation era, computer has become a key component to our daily life because of the advancement technology of World Wide Web that becomes an internet that allow each and every user connected with theirs' computer for information sharing throughout the whole world. The World Wide Web did a great contribution to a lot of enterprise which use this mechanism for information sharing within the enterprise and also outside the enterprise (Kapchnaga, R, 2014). From the benefit of World Wide Web, a lot of fast food industry applies a system known as Online Ordering System to assist their business processes. Online Ordering System is a technique that allow customer to order their favourite food online via the internet by using a web browser that installed in their respective computer or smart phone. Implementing this system can help fast food industry to solve the problem that they face while using the traditional food ordering processes.

Strength

The system is very suitable for fast food industry due to it provides ability for customer to place order anywhere and everywhere and also minimized the time

require during the order processes. Customers do not need to physically go to the restaurant for food ordering instead of just using their mobile device to place an order via the internet and when the customer reach the restaurant they can directly have their meal without waiting for the queue. Meanwhile, it help the fast food restaurant to have a better customer services because the most important factor that fast food industry concern about is quickness therefore the restaurant should serve their customer without any delay.

Weaknesses and Limitations

The main weaknesses of the system will be internet connection depended. The system will not be operating without the internet connection. Because customer have to place order via the internet as a medium and the data send to the restaurant database for further process, the customer will not be able to access the web service if no internet connection available. Furthermore, if the Internet Service Provider (ISP) is under maintenance it will did a great impact to the restaurant that relies on the online order system for their business.

Electronic Menu Card for Restaurants

This order system overcome the drawback of traditional paper based order system, it change everything from paper based into computerized. First of all, the system will be programed with the food availability from the respective restaurant and display on touchscreen devices that have been setup in each of the tables within the restaurant. In addition, the touchscreen device will have a very attractive Graphic User Interface (GUI) that displays the food menu for customer to make their choices

and enable customer to place an order by touching the particular food image that display on the device screen. Next, when the customer placed an order, the food order will be send to the kitchen and the chef can prepare for the food. This system eliminates the issue from traditional paper based system that the waiter has to manually deliver the order to kitchen. Other than that, the system provide a sub-module that enable restaurant owner to update the food details, food price and etc. It was very convenience compare to the traditional paper based system, because paper based system require the restaurant owner to dispose all old food menu cards and re-print the latest food menu card to serve their customers.

Strength

This system will help in reducing the number of employee that need in the restaurants hence it will directly help in considerably reducing the long-term cost of restaurant management. Second, the system also helps reducing the manual customer services activities and thus eliminating the human error and human mistakes.

Weaknesses and Limitations

Although this system provide a lot of ideal solution that can help a restaurant to solve the problem that they encountered in their working hour, but it need the restaurant owner to invest a huge amount of money in these systems. For many restaurant owners, they might not take risk to investing a huge amount of money into this system.

CHAPTER-3

SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

Various case studies have highlighted the problems faced while setting up a restaurant. Some of the problems found during the survey in the existing system are listed below:

To place the orders customer visits the restaurant, checks the menu items available in the restaurant, and chooses the items required, then places the order and then do the payment. This method demands manual work and time on the part of the customer.

When the customer wants to order over the phone, customer is unable to see the physical copy of the menu available in the restaurant, this also lacks the verification that the order was placed for the appropriate menu items.

3.1.1 DISADVANTAGE

- The only disadvantage is that due to the server signals the orders might not reach the restaurants and the order might get lost due to the reason.

3.2 PROPOSED SYSTEM

The simulation first starts with the customer entering his/her credentials (name, ID and password).

Once that has been verified, the customer can place an order specifying the quantity of the food required. Now we get a window that displays the order number, customer ID, food name, price and quantity.

Once the customer finalizes his/her order, they are redirected to the payment window where the total price is displayed and the customer can select the payment method of their choice and then the customer gets a message of confirmation of order.

3.2.1 ADVANTAGES

The advantage we get from this website is that we ca order the food for the entire day just at the beginning of the day and need not to worry about the lunch and dinner as we ordered in the morning while ordering breakfast and we can peacefully do our work and the food will be delivered right on time.

3.3 SOFTWARE REQUIREMENTS

Operating system	: Windows XP/7/8.1/10
IDE	: Visual Studio Code
Coding Language	: .HTML, CSS, ANGULARJS
Backend	: MONGODB

3.4 .MONGDB

MongoDB is a source available cross platform oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas. MongoDB is developed by MongoDB INC and licensed under the Server Side Public License (SSPL).

0gen software company began developing MongoDB in 2007 as a component of a planned platform as a service product. In 2009, the company shifted to an open-source development model, with the company offering commercial support and other services. In 2013, 10gen changed its name to MongoDB Inc.

On October 20, 2017, MongoDB became a publicly traded company, listed on NASDAQ as MDB with an IPO price of $24 per share.

MongoDB is a global company with US headquarters in New York City and International headquarters in Dublin.

On October 30, 2019, MongoDB teamed up with Alibaba Cloud, who will offer its customers a MongoDB-as-a-service solution. Customers can use the managed offering from BABA's global data centers.

MAIN FEATURES

Ad-hoc queries

MongoDB supports field, range query, and regular-expression searches. Queries can return specific fields of documents and also include user-defined JavaScript functions. Queries can also be configured to return a random sample of results of a given size.

Indexing

Fields in a MongoDB document can be indexed with primary and secondary indices or index.

Replication

MongoDB provides high availability with replica sets.[A replica set consists of two or more copies of the data. Each replica-set member may act in the role of primary or secondary replica at any time. All writes and reads are done on the primary replica by default. Secondary replicas maintain a copy of the data of the primary using built-in replication. When a primary replica fails, the replica set automatically conducts an election process to determine which secondary should become the primary. Secondaries can optionally serve read operations, but that data is only eventually consistent by default.

If the replicated MongoDB deployment only has a single secondary member, a separate daemon called an *arbiter* must be added to the set. It has a single responsibility, which is to resolve the election of the new primary. As a consequence, an idealized distributed MongoDB deployment requires at least three separate servers, even in the case of just one primary and one secondary.

Load balancing

MongoDB scales horizontally using sharding. The user chooses a shard key, which determines how the data in a collection will be distributed. The data is split into ranges (based on the shard key) and distributed across multiple shards. (A shard is a master with one or more replicas.) Alternatively, the shard key can be hashed to map to a shard – enabling an even data distribution.

MongoDB can run over multiple servers, balancing the load or duplicating data to keep the system up and running in case of hardware failure.

File storage

MongoDB can be used as a file system, called GridFS, with load balancing and data replication features over multiple machines for storing files.

This function, called grid file system, is included with MongoDB drivers. MongoDB exposes functions for file manipulation and content to developers. GridFS can be accessed using mongofiles utility or plugins for Nginx and lighttpd. GridFS divides a file into parts, or chunks, and stores each of those chunks as a separate document.

Aggregation

MongoDB provides three ways to perform aggregation: the aggregation pipeline, the map-reduce function, and single-purpose aggregation methods.

Map-reduce can be used for batch processing of data and aggregation operations. But according to MongoDB's documentation, the Aggregation Pipeline provides better performance for most aggregation operations.

The aggregation framework enables users to obtain the kind of results for which the SQL GROUP BY clause is used. Aggregation operators can be strung together to form a pipeline – analogous to Unix pipes. The aggregation framework includes the $lookup operator which can join documents from multiple collections, as well as statistical operators such as standard deviation.

Server-side JavaScript execution

JavaScript can be used in queries, aggregation functions (such as MapReduce), and sent directly to the database to be executed.

Capped collections

MongoDB supports fixed-size collections called capped collections. This type of collection maintains insertion order and, once the specified size has been reached, behaves like a circular queue.

Transactions

MongoDB claims to support multi-document ACID transactions since the 4.0 release in June 2018.This claim was found to not be true as MongoDB violates snapshot isolation.

3.4.1 OBJECTIVES OF MongoDB

MongoDB describe themselves as a general purpose database but IMO the sweet spot for the DB is in the development of modern applications with rapidly changing requirements utilising modern programming stacks.

MongoDB has the following strong advantages when building a modern application:

- The flexible schema allows you to iterate through product designs faster than databases like Oracle, since changes to the data model don't require database reconfiguration or rebuild
- Applications build with MongoDB can easily integrate with Continuous Integration platforms, since all the data model is encapsulated within the program code.
- MongoDB reduces the friction between object model and database model - there's no need to always convert between the representation of data in the application and that in the database. That having been said, carefully constructing the data model is still essential for optimal performance.
- The use of JavaScript as the database language is very convenient when programming in JavaScript elsewhere in the application - particularly if you are using NodeJS.
- MongoDB is open source and so can be used without licensing costs (though MongoDB the company offers enterprise and hosted options that have significant advantages over the open source version).
- MongoDB is relatively easy to setup up, and scaling is relatively straight forward. Administration of MongoDB in production is less expensive than for many other databases.

MongoDB is not such a good choice when the database is going to be used for analytics or data warehousing. In that scenario you might be looking to Hadoop or a relational system.

.

3.4.2 SECURITY

Encrypt and Protect Data

- You can encrypt data in the storage layer with the WiredTiger storage engine's native Encryption at Rest.
- If you are not using WiredTiger's encryption at rest, MongoDB data should be encrypted on each host using file-system, device, or physical encryption (for example dm-crypt). You should also protect MongoDB data using file-system permissions. MongoDB data includes data files, configuration files, auditing logs, and key files.
- You can use Client-Side Field Level Encryption to encrypt fields in documents application-side prior to transmitting data over the wire to the server.
- Collect logs to a central log store. These logs contain database authentication attempts including source IP addresses.

Limit Network Exposure

- Ensure that MongoDB runs in a trusted network environment and configure firewall or security groups to control inbound and outbound traffic for your MongoDB instances.
- Disable direct SSH root access.
- Allow only trusted clients to access the network interfaces and ports on which MongoDB instances are available.

Audit System Activity

- Track access and changes to database configurations and data. MongoDB Enterprise includes a system auditing facility that can record system events (including user operations and connection events) on a MongoDB instance. These audit records permit forensic analysis and allow administrators to exercise proper controls. You can set up filters to record only specific events, such as authentication events.

3.5 MongoDB Server

MongoDB is an open source NoSQL database management program. NoSQL is used as an alternative to traditional relational databases. NoSQL databases are quite useful for working with large sets of distributed data. MongoDB is a tool that can manage document-oriented information, store or retrieve information. The default location for the MongoDB data directory is c:\data\db. So you need to create this folder using the Command Prompt. Execute the following command sequence. Then you need to specify set the dbpath to the created directory in mongod.exe.

Data storage

In a nutshell, an online ordering system works by providing a website or mobile app where customers can view a restaurants menu and place an order. These orders are then received by the restaurant using an app. These days there are 100's of online ordering systems available.
Marketplace systems fundamentally provide a single website or mobile app that connects hundreds of different restaurants all on one platform. They enable hungry customers to easily order from any of the restaurants on their platform.
Marketplaces also streamline the design across all their stores which means limited branding opportunity for the restaurant.
Standalone systems take a different approach by allowing restaurants to create their own unique website hosted at any web domain name. This generally allows for greater branding and customization. Standalone systems tend to be significantly cheaper than marketplaces as the restaurant takes on the responsibility of promoting their online store. For example, with CloudWaitress, a restaurant can create their own website and start accepting online orders for free.

ABOUT ANGULAR JS

AngularJS was a JavaScript-based open-source front-end web framework for developing single-page applications. It was maintained mainly by Google and a community of individuals and corporations. It aimed to simplify both the development and the testing of such applications by providing a framework for client-side model–view–controller (MVC) and model–view–view model (MVVM) architectures, along with components commonly used in web applications and progressive web applications.

AngularJS was used as the frontend of the MEAN stack, that consisted of MongoDB database, Express.js web application server framework, AngularJS itself (or Angular), and Node.js server runtime environment.

The AngularJS framework worked by first reading the Hypertext Markup Language (HTML) page, which had additional custom HTML attributes embedded into it. Angular interpreted those attributes as directives to bind input or output parts of the page to a model that is represented by standard JavaScript variables. The values of those JavaScript variables could be manually set within the code or retrieved from static or dynamic JSON resources.

AngularJS was built on the belief that declarative programming should be used to create user interfaces and connect software components, while imperative programming was better suited to defining an application's business logic. The framework adapted and extended traditional HTML to present dynamic content through two-way data-binding that allowed for the automatic synchronization of models and views. As a result, AngularJS de-emphasized explicit Document Object Model (DOM) manipulation with the goal of improving testability and performance.

As of January 1, 2022, Google no longer updates AngularJS to fix security, browser compatibility, or jQuery issues. The Angular team recommends upgrading to Angular (v2+) as the best path forward, but they also provided some other options.

AngularJS's design goals included:

To decouple DOM manipulation from application logic. The difficulty of this is dramatically affected by the way the code is structured.

To decouple the client side of an application from the server-side. This allows development work to progress in parallel and allows for reuse of both sides.

To provide structure for the journey of building an application: from designing the UI, through writing the business logic, to testing.

AngularJS implemented the MVC pattern to separate presentation, data, and logic components. Using dependency injection, Angular brought traditionally server-side services, such as view-dependent controllers, to client-side web applications. Consequently, much of the burden on the server could be reduced.

SCOPE

AngularJS used the term "scope" in a manner akin to the fundamentals of computer science.

Scope in computer science describes when in the program a particular binding is valid. The ECMA-262 specification defines scope as: a lexical environment in

which a Function object is executed in client-side web scripts;[9] akin to how scope is defined in lambda calculus.

As a part of the "MVC" architecture, the scope forms the "Model", and all variables defined in the scope can be accessed by the "View" as well as the "Controller". The scope behaves as a glue and binds the "View" and the "Controller".

WORKING OF FOOD ORDERING SYSTEM

Online food ordering is a process of ordering food from a local restaurant or food cooperative through a web page or app. Much like ordering consumer goods online, many of these allow customers to keep accounts with them in order to make frequent ordering convenient. A customer will search for a favorite restaurant, usually filtered via type of cuisine and choose from available items, and choose delivery or pick-up. Payment can be among others either by credit card or cash, with the restaurant returning a percentage to the online food company.

Key Takeaways:

- Technology plays a premium role in every industry. The trend bug has bitten the restaurant industry too with the food ordering system.
- Restaurant owners who are constantly trying to ‘level-up’ their business, enforce the software for ordering and delivery.
- There is a lot of hesitation among the community to implement the system, thinking that the process is complicated.

Customer experience drives growth for the restaurant business. Whether a customer is dining-in or ordering online, his experience of placing the order to receiving it decides if he/ she is going to rave about your restaurant or not turn back again. The restaurant ordering system hence becomes an incredibly important part of the growth of the restaurant business.

A well-designed restaurant ordering system leads to overall business growth. It aligns the 3 most important touchpoints for the customer:

1. In the case of dine-in: the staff taking the order can create a highly personalised experience
2. In the case of online-ordering: a well-designed ordering system can make the customer feel the ease of ordering and tracking their order
3. For the Chef (at the kitchen level): the ordering system connected with a KDS can be of great value to create personalisation in preparing food.

As your restaurant business grows, the complexity of operations grows. Customers have more touchpoints to engage with your restaurant (online and offline). An efficient restaurant ordering system must ensure that the restaurant operating team has deep visibility across all order-input channels.

The approach that fastest-growing restaurants take – Omni channel:

The fastest-growing restaurants opt for an omni channel approach. This approach keeps the customer at the center of the entire experience. The entire restaurant ordering system is designed keeping the customer's experience first. This approach has far-reaching implications in increasing customer loyalty and hence sales.

At this stage, it is important to mention the role of the restaurant POS. An ordering system works like magic when it is backed with an as efficient POS system.

In this article, we cover the following:

1. What is the significance of a restaurant ordering system?
2. How a centralized Restaurant Ordering system streamlines order management in the restaurant?
3. How does integration with Kitchen Display Systems enhance the efficiency of order taking in the restaurant?
4. How third party integrations prepare restaurant business for taking online orders?
5. How an automated ordering system enables a restaurant's website and mobile app to accept and manage online orders?

What Is The Significance Of A Restaurant Ordering System Along With The POS Software?

Backed by a well-integrated POS software, a restaurant ordering system will ensure that your customers always have a great ordering experience whether dining-in or ordering online.

A smart restaurant ordering system offers complete restaurant order management solutions. It is an integrated system that streamlines order taking from multiple

channels. It also provides a unified view of the complete order input to output cycle to the stakeholders involved.

The restaurant ordering system in a cloud-based Point of Sale (POS) is an evolved, integrated system that processes orders from the following touchpoints :

- Restaurant premises
- Third-Party Aggregators
- Restaurant Website/ Mobile App

A POS backed with ordering system gives a unified view with a central panel that accepts orders from multiple channels. This makes it easy for the restaurateurs to track item-wise sales. They can analyze the best and least performing items based on the detailed reports of the orders received. The menu modifications and customized offers can also be set based on orders placed by the customers.

How Is Order Taking Simplified With A Centralized Restaurant Ordering System?

A good order taking mechanism in a restaurant ensures speedy delivery of orders that is accompanied by efficiency.

Why is merging the orders from multiple platforms into a centralized panel important for your restaurant business?

Below we discuss how a centralized restaurant ordering system adds efficiency to different levels of order taking in your restaurant.

1. Optimize Order Taking Management On-Premise

The manual paper pen way of order taking is prone to errors and confusion. Moreover, the order cycle has to pass through several people. That is why the restaurants today have adopted the technology of taking orders straight via their POS systems.

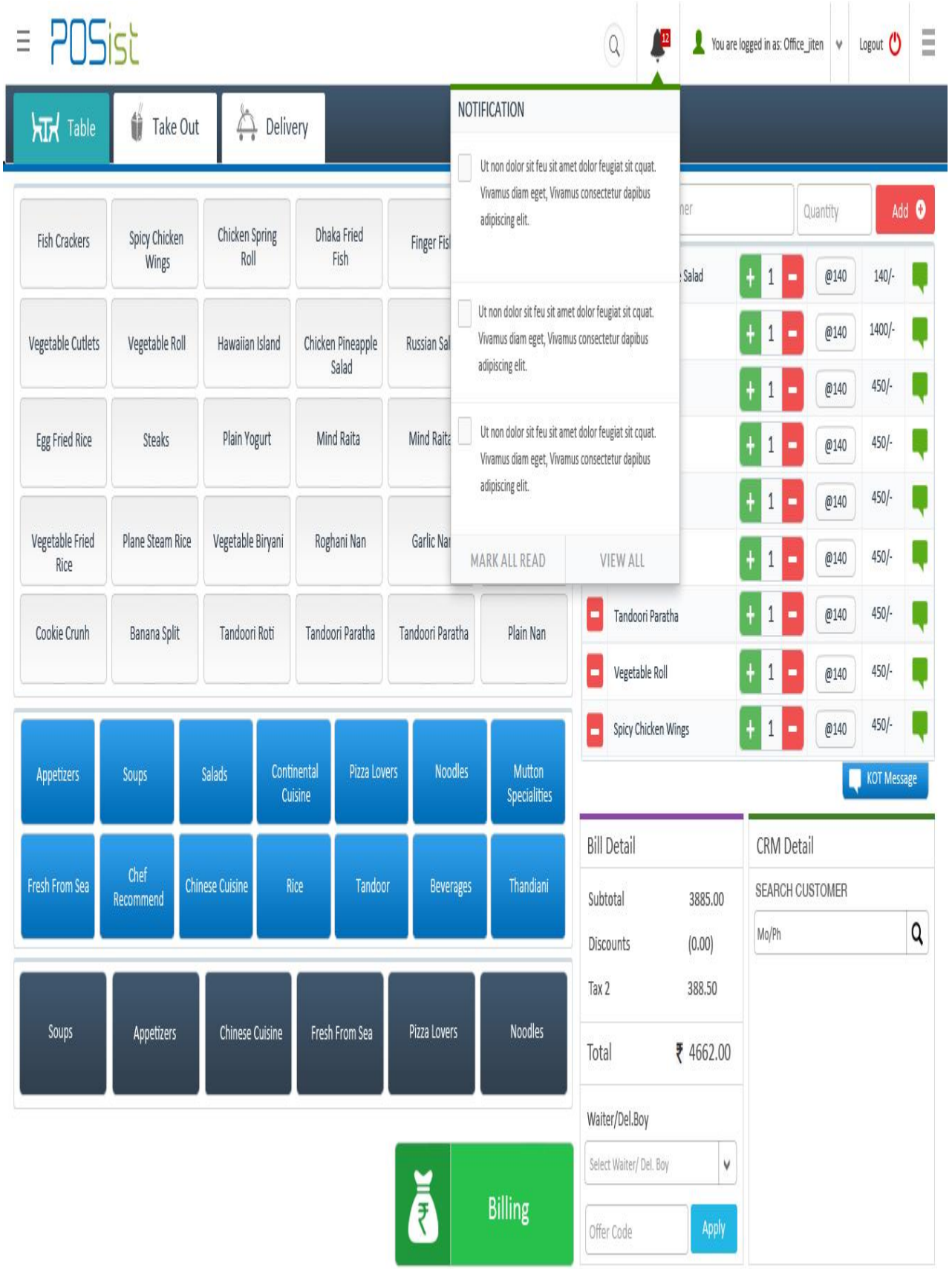
A centralized restaurant ordering system decreases the chances of manual errors. The restaurant attendants have access to the entire menu and table numbers on their screens. It helps them to generate instant KOT without any chances of delays or confusion.

Restaurateurs can also track and optimize overall table turnover time. Many restaurants take orders directly on the tablets. The orders received on the tablets are directly reflected in the system. It significantly decreases the table turnover time on each order.

All the in-premise orders, takeaway and delivery orders are reflected in a single system. Restaurants can set offers based on the different types of orders. In the takeaway and delivery orders, the restaurants can set customized discount coupons and add different payment options.

For dine-in orders, the system can process categorized bills.
Example: A separate bill for food items and alcoholic beverages. It automatically calculates customized discounts or complimentary offers. It can also split the bills equally depending on the customer and items consumed.

The servers can view the most ordered and preferred items on the menu, which helps them in up-selling and cross-selling. As there is better coordination between the restaurant staff, the overall efficiency of the restaurant also increases.


POSist
You are logged in as: Office_jiten
Logout
Table
Take Out
Delivery
NOTIFICATION
Ut non dolor sit feu sit amet dolor feugiat sit cquat. Vivamus diam eget, Vivamus consectetur dapibus adipiscing elit.
Ut non dolor sit feu sit amet dolor feugiat sit cquat. Vivamus diam eget, Vivamus consectetur dapibus adipiscing elit.
Ut non dolor sit feu sit amet dolor feugiat sit cquat. Vivamus diam eget, Vivamus consectetur dapibus adipiscing elit.
MARK ALL READ
VIEW ALL
Fish Crackers
Spicy Chicken Wings
Chicken Spring Roll
Dhaka Fried Fish
Vegetable Cutlets
Vegetable Roll
Hawaiian Island
Chicken Pineapple Salad
Egg Fried Rice
Steaks
Plain Yogurt
Mind Raita
Vegetable Fried Rice
Plane Steam Rice
Vegetable Biryani
Roghani Nan
Cookie Crunh
Banana Split
Tandoori Roti
Tandoori Paratha
Plain Nan
Quantity
Add
Tandoori Paratha
Vegetable Roll
Spicy Chicken Wings
@140
140/-
1400/-
450/-
KOT Message
Appetizers
Soups
Salads
Continental Cuisine
Pizza Lovers
Noodles
Mutton Specialities
Fresh From Sea
Chef Recommend
Chinese Cuisine
Rice
Tandoor
Beverages
Thandiani
Soups
Appetizers
Chinese Cuisine
Fresh From Sea
Pizza Lovers
Noodles
Billing
Bill Detail
Subtotal 3885.00
Discounts (0.00)
Tax 2 388.50
Total ₹ 4662.00
Waiter/Del.Boy
Select Waiter/ Del. Boy
Offer Code
Apply
CRM Detail
SEARCH CUSTOMER
Mo/Ph

2. Streamlining Order Taking With Integrations

A key stakeholder of the order taking process in a restaurant is the Chef (or the Kitchen manager). An order taking system integrated with a well designed KDS creates incredible value.

Integration With Kitchen Display Systems (KDS) In A POS

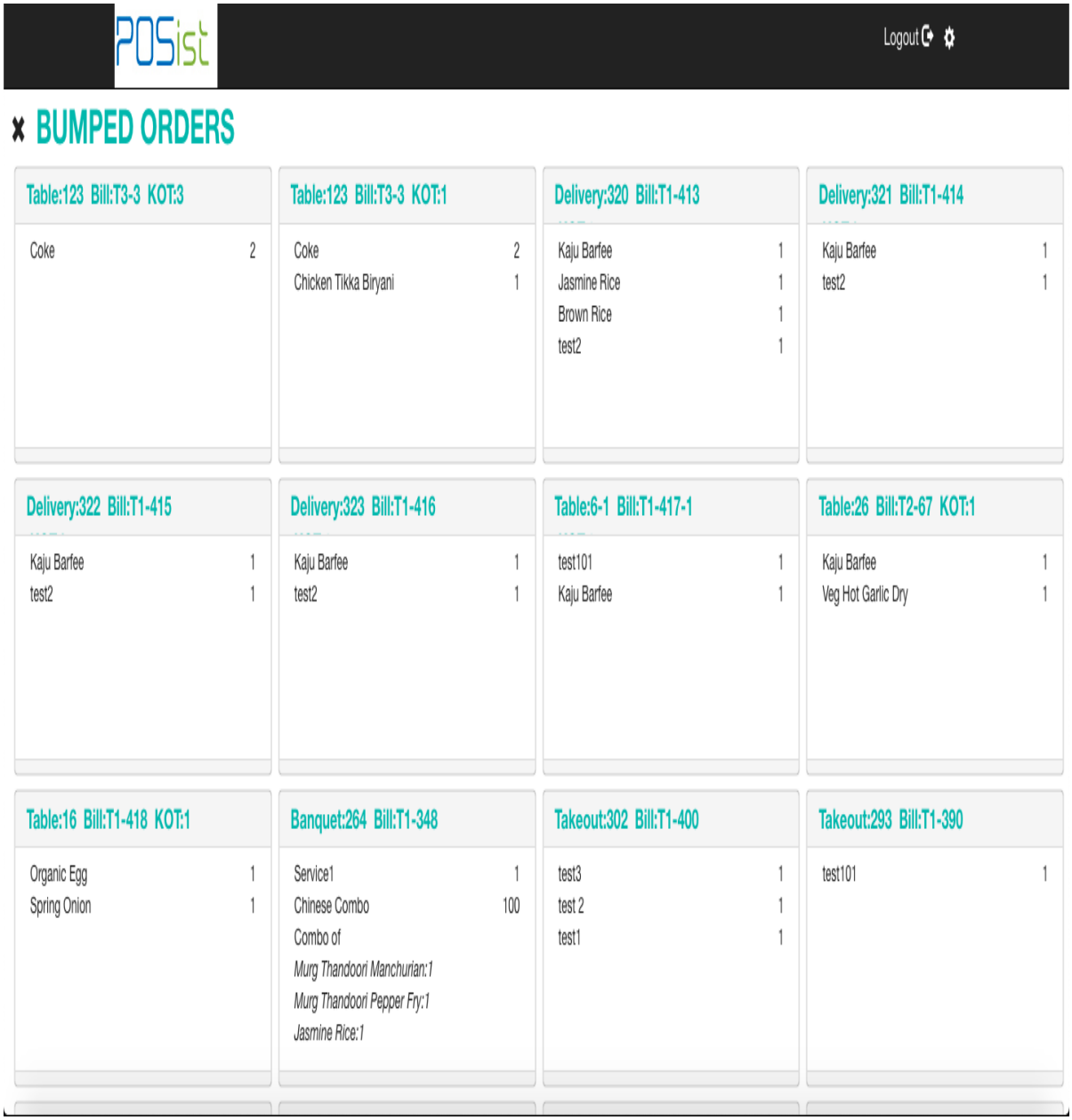
In a Kitchen Display System, monitors are placed at the Back of House (BOH) where the food is prepared. The Front of House(FOH) places orders on the system and it displays on the monitors. The kitchen staff immediately gets the notification about the number of food items to be prepared. The raw materials and the inventory to be consumed is also calculated as per the number of orders.

The KDS also accepts online orders directly into the system. There is no manual requirement for adding the order first in the system and then pushing it to the kitchen.

Integration with Kitchen Display Systems enables better kitchen management. These systems ensure timely deliverance of services. The ticket time reduces significantly without any scope of manual errors.

During rush hours, the chances of excessive usage or wastage of raw materials are high. No standardization in the recipe management deteriorates the food quality. Wastage of raw materials and inventory incurs high costs. A substantial delay follows it in services. Improper order management ultimately leads to customer dissatisfaction.

Integration with KDS streamlines the entire ordering process. It highlights the right estimated amounts of raw materials required for food preparation that significantly helps in the overall inventory management. Maintaining proper levels of inventory reduces food costs. Timely deliverance of services enhances the overall customer experience.



Integrating With Online Food Aggregators

Integration with online food aggregators like Zomato, Swiggy, UberEats creates several efficiencies in the order taking process. For any restaurant, this is an important consideration because the online aggregators are heavily investing in technology, delivery staff and marketing to capture the end customer's loyalty.

When the customer places the order, the restaurant receives the request directly into their system. Every customer can have a specific choice of the kind of food they want to have. This is where the order taking system becomes really valuable.

Not integrating with the third-party platforms utilizes the efforts and time of manually updating the order on the system. The restaurant may also miss the slightest chances of adding minute details.

Integrations eliminate the otherwise time taken to add the order details manually. There is no hassle of working on multiple screens or consolidating the data manually.

3. Taking Orders Via Restaurant's Website/ Mobile App

Restaurants are realising the need to own the end customer order placing experience. This is why they are investing in self-owned website/ mobile apps. This way they can manage the end customer experience a lot more.

A powerful trait of the restaurant ordering system is that it profoundly integrates the website/mobile orders with the POS.

All the orders received online are pushed in the system directly. There is no chance of missing out on any orders. Any orders received online would also reflect in the real-time orders in the POS.

A detailed report on orders received on the website provides insights about the performance of each item. Combining the sales information from both online and offline mediums, restaurateurs can bring modifications to the central menu.

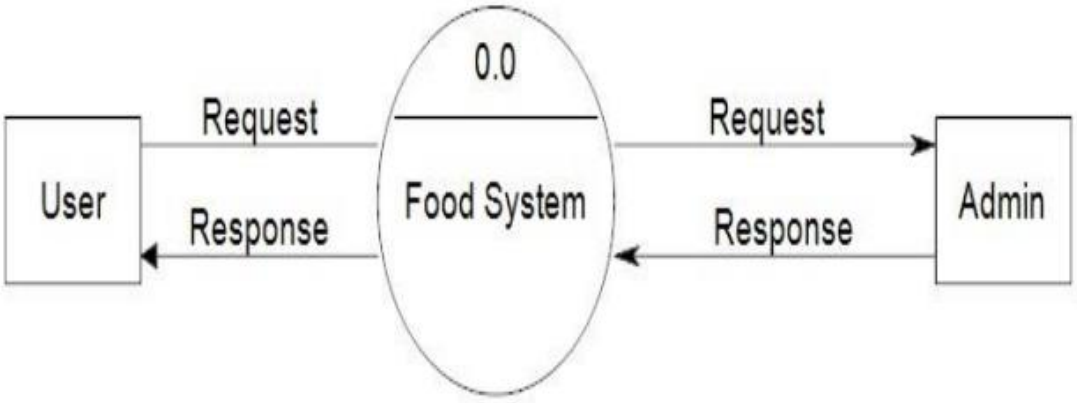
Any changes made in the menu automatically reflect on the restaurant's website and mobile app.

Retaining customers also becomes easier. The central CRM instantly updates the collected customer data from the website/ mobile app. Based on the consumption patterns, the restaurateurs can create customized offers and even send direct push notifications via the app. Even for the customers, it is more accessible to track their order history.

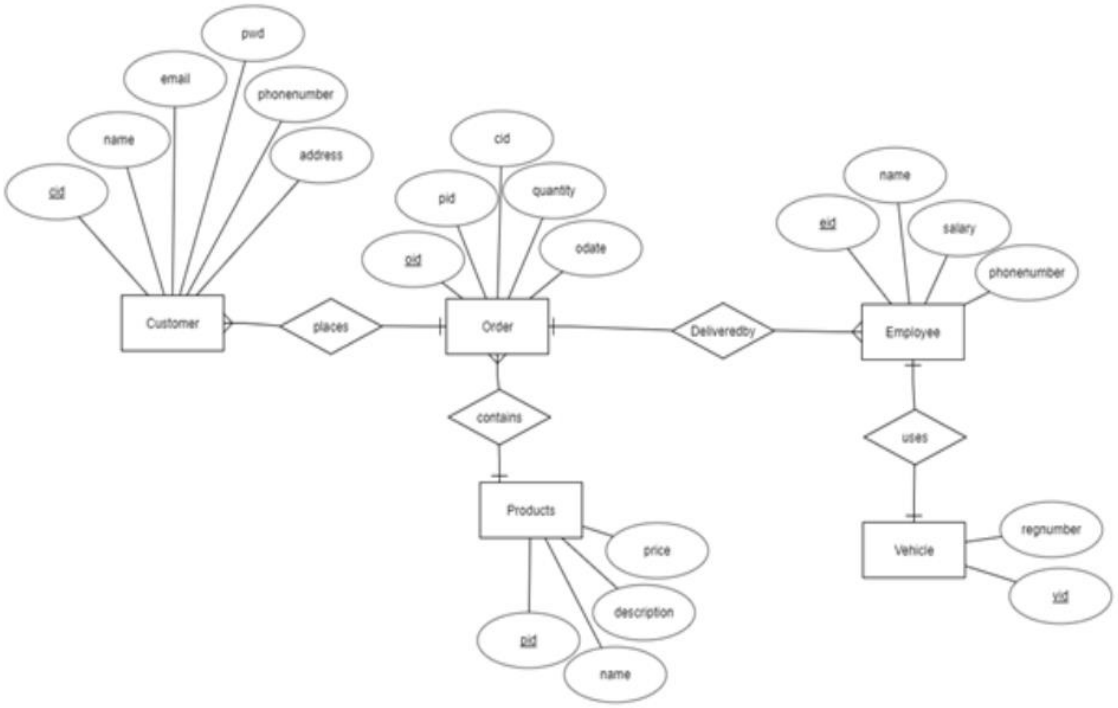
What questions must you ask before investing in a restaurant ordering system?

1. Will the ordering system help you manage all orders across channels in a single view?
2. Is your restaurant POS equipped with the essential requirements of an ordering system?
3. Will your existing restaurant ordering system upgrade as you scale your restaurant business?
4. Is the restaurant ordering system designed keeping the customer in the centre of the entire ordering process?

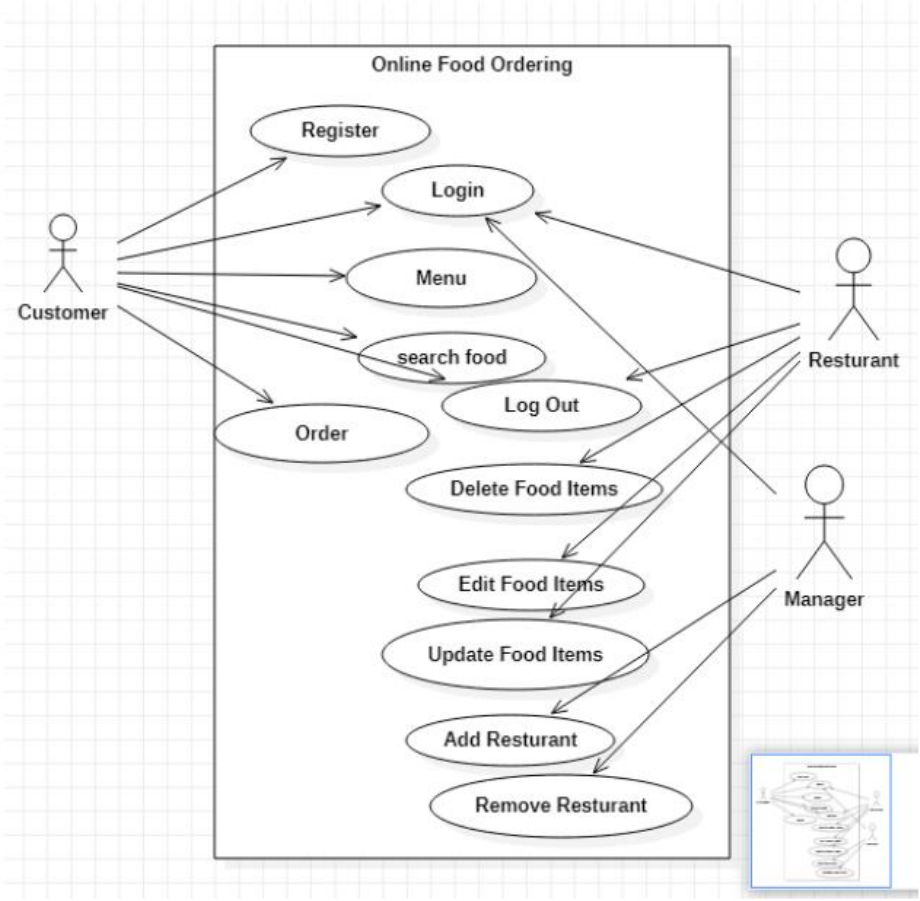
FD-LEVEL-1



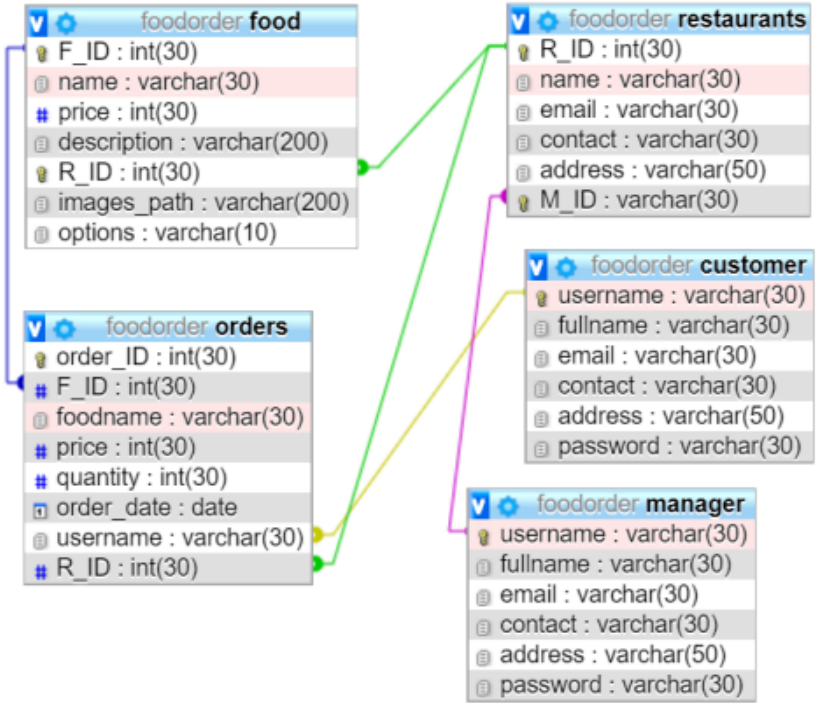
ER diagram



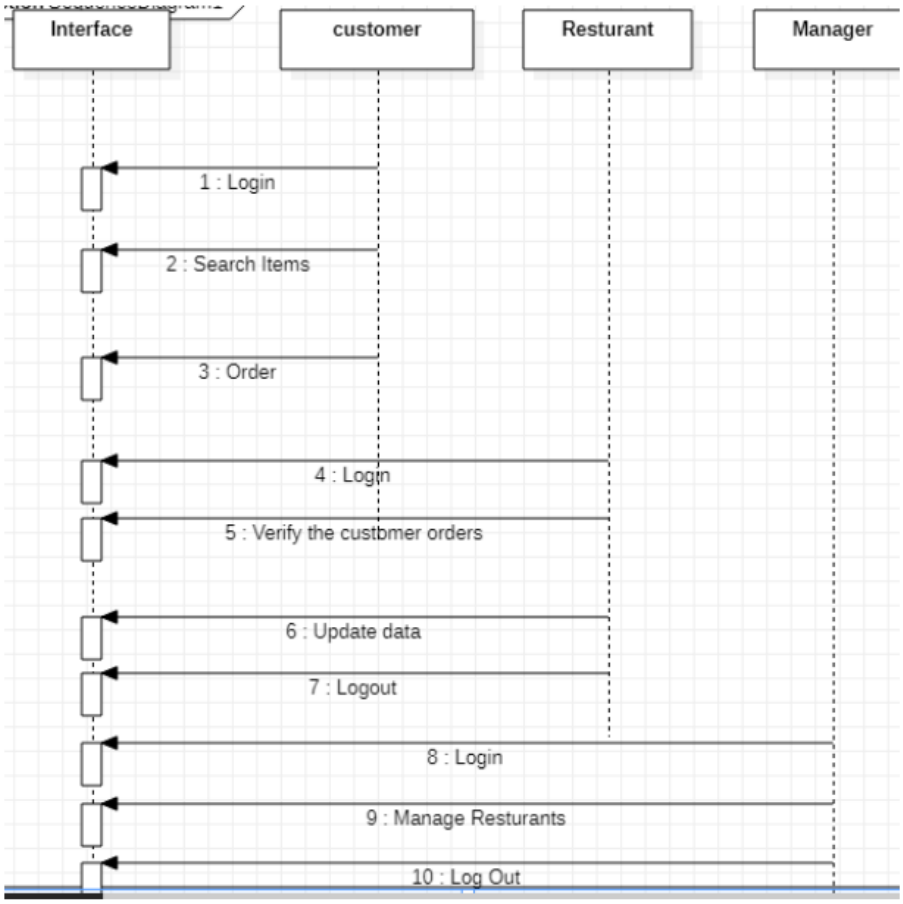
Use case diagram



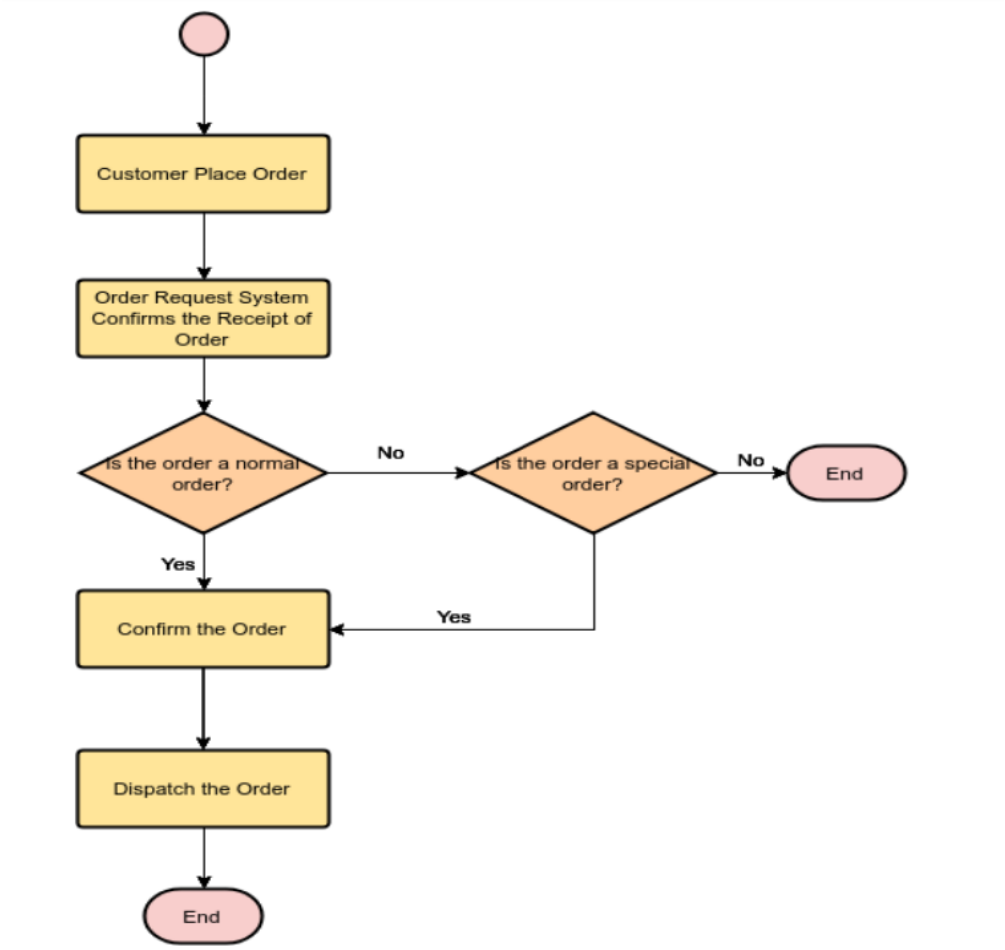
CLASS DIAGRAM



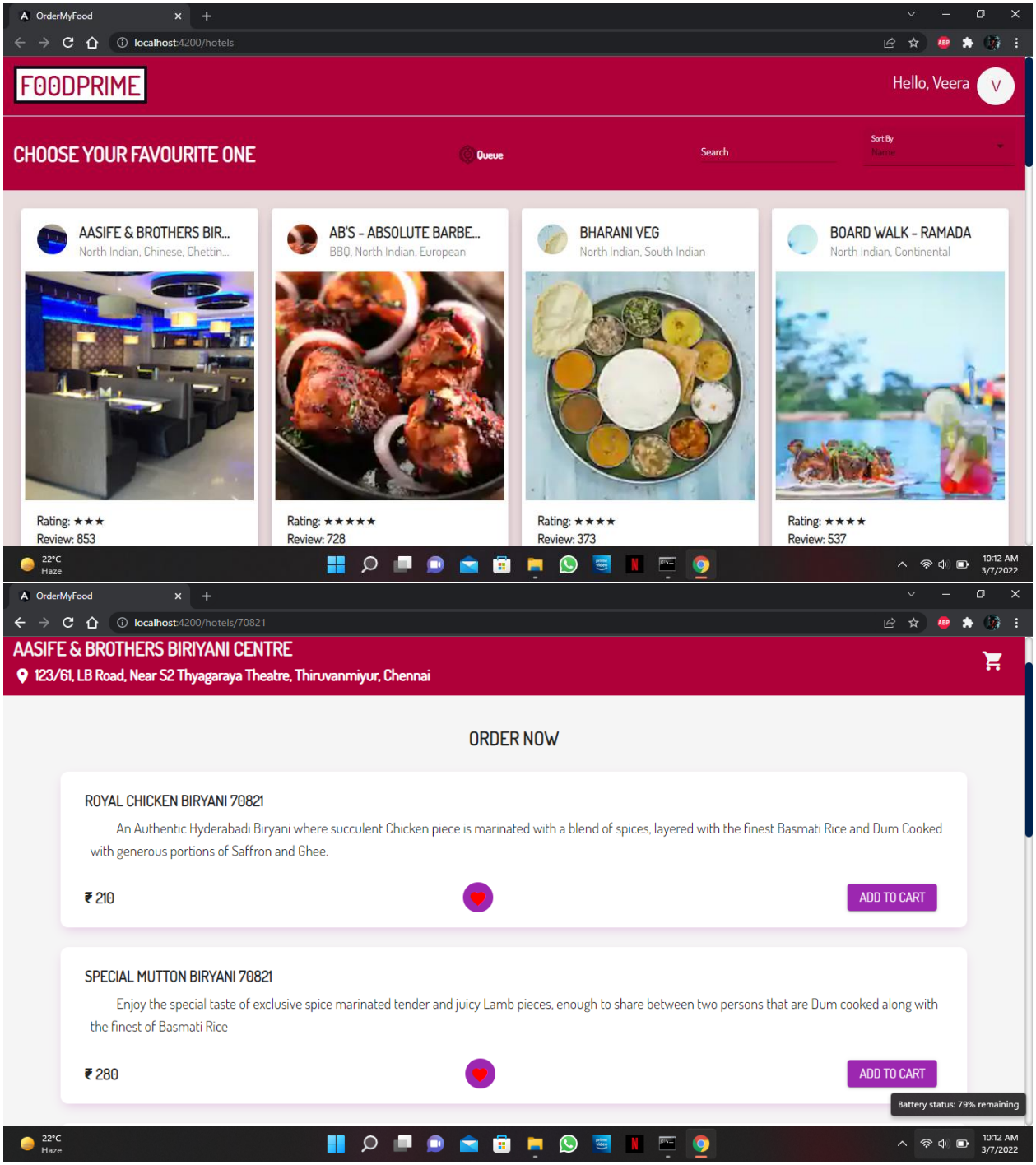
Sequence diagram

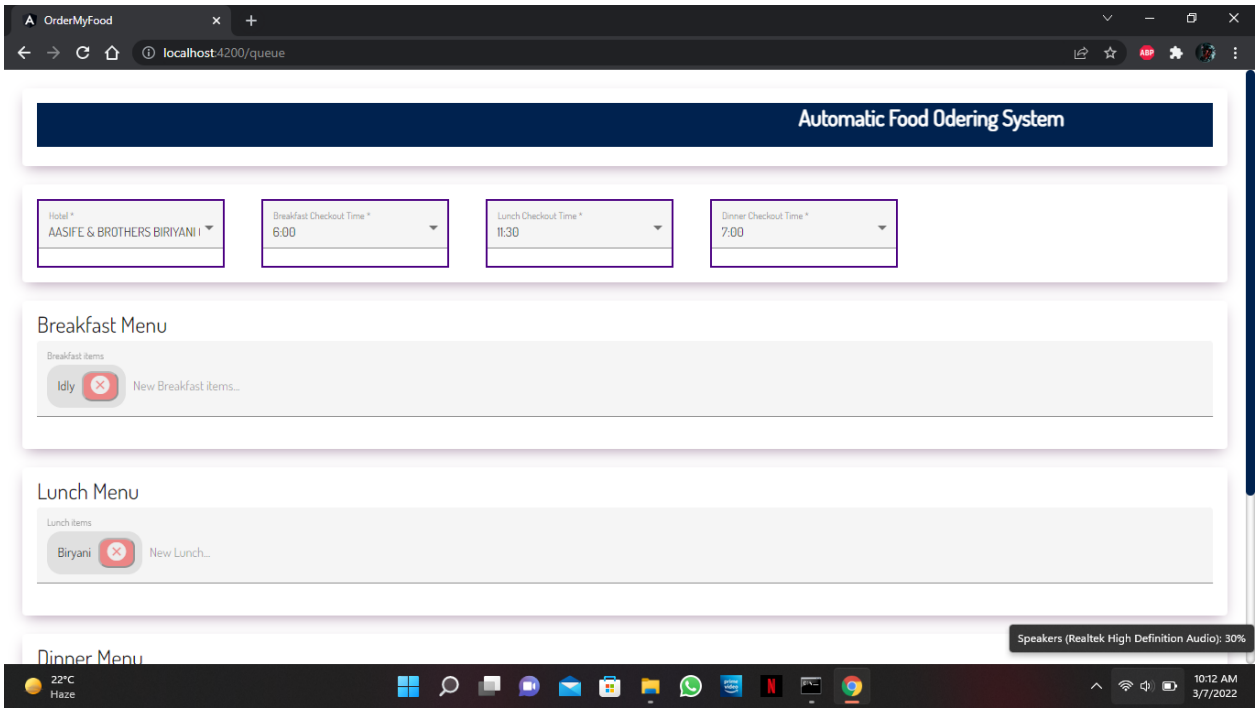


Flow chart


Customer Place Order
Order Request System Confirms the Receipt of Order
Is the order a normal order?
No
Is the order a special order?
No
End
Yes
Yes
Confirm the Order
Dispatch the Order
End

SCREENSHOTS




OrderMyFood
localhost:4200/queue
Automatic Food Odering System
Hotel *
AASIFE & BROTHERS BIRIYANI
Breakfast Checkout Time *
6:00
Lunch Checkout Time *
11:30
Dinner Checkout Time *
7:00
Breakfast Menu
Breakfast items
Idly
New Breakfast items...
Lunch Menu
Lunch items
Biryani
New Lunch...
Dinner Menu
Speakers (Realtek High Definition Audio): 30%
22°C
Haze
10:12 AM
3/7/2022

CHAPTER-4

RESULTS AND DISCUSSION

5.1 RESULT

Customer Experience

1. It is a fact, if your customers like your service, they will come back and also recommend you to their world. They will become your best advertisers. So, you need to commit to a service that keeps them coming back.

2. It can be done by making the ordering process convenient for them. Eventually, this “convenience” will pay huge dividends for your restaurant. One thing is certain that people don’t like to order their food over the phone. Everyone wants to place their order without fuss and undoubtedly, asap.

3. People don’t want to spend 5-6 minutes as they place their order over the phone by looking at the ordering catalogue and pausing whatever work they were doing.

4. One thing online ordering will certainly do is “up your game” when it comes to providing a better service by making the ordering process convenient for your customers.

5. When your customers pick up their smartphones to use your online ordering system, they will do it at their own convenience.

6. Remember, this time they will look at your online menu more carefully and select items after reading descriptions from the menu. Your customers can order their favourite food by clicking on the screen a few times and they do it from the comfort of their homes.

7. During the rush hour, they can place the order online and pick up their food from the restaurant at a set time. In this way, they don't wait in long lines.

8. By using online ordering you not only deliver food to your customers promptly but also forge an invaluable connection which adds value to your establishment.

Web Presence

9. Managing a restaurant in these times means that you need to have a strategic online representation.

10. Your business needs to maintain a competent presence at various search engines and social media platforms.

11. When you have an online ordering system for your restaurant, you amplify your web presence because you can receive orders from your website/facebook page/mobile app directly to the kitchen. With the help of a website (that provides value to your customers) and a dedicated SEO

strategy your restaurant can get some serious visibility boost in the ‘web locality’.

Productivity

12. Instead of wasting time taking orders over the phone, orders can be received online, and the orders received from the customers directly have matchless accuracy.

13. The online ordering software will receive the orders from the customers and directly relay it to the kitchen staff.

14. This single feature will greatly boost your employee productivity and help to create a superior in-house experience for the customers in the restaurant. As your staff is not preoccupied with receiving orders over the phone. They can use this time in a much better way, by attending to the guests diligently.

15. And during rush-hour/lunch-time, you don’t have to place a staff dedicated to receiving orders at the counter. By using online ordering you can shorten the queues at the counter, easily.

16. You will reap maximum value by employing the data generated by your customers.Many online ordering portals (aggregators) don’t share this crucial data with you. This data will provide insights to develop a superior marketing plan.

17. A good online ordering system will have an inbuilt analytics platform that will help you to track this data and channel it to sell better.

Sales

18. When customers order online, there are fewer distractions. They don't have to decide quickly on the items as there is no-one waiting to take the order.

19. Usually, there is no pressure to order.Hence, your customers spend more time on the menu. And, this is good for your business.

20. Online ordering platforms are inbuilt for cross-selling items. As they spend more time on the menu, they order appetizers that they wouldn't order in the store. Add-On items in the menu see better sales, online.

21. Customers read the descriptions, carefully. If done properly, your online menu with aptly used photographs can bring in larger orders. You will be surprised that items that don't sell in the store sell better when paired with a selling item on the online menu.

Savings

22. Your online ordering system also takes care of your margins. Since your restaurant's orders don't go through a third party platform, you will notice a change in your operating margins.

23. Other available options don’t work in a similar way, to avail their services you have to use their portal which delays processing and also charges a commission on every processed order.

24. Getting your own online ordering system will provide you a competitive edge.

25. Think about the technology that you would be using, it will be similar to the technology that a large restaurant chain uses for itself. And, you would be accomplishing that without burning a hole in your pocket.

CHAPTER-5

CONCLUSION AND FUTURE ENHANCEMENT

6.1 CONCLUSION

People can successfully order the food using the proposed system.

There will be a lesser requirement of staff at the back counter.

The system will help in reduction of labour cost involved and also reduces the space required to set up cafeterias in the restricted area.

As it is an automated system it is less probable to make any mistakes.

The customers can avoid the long queues at the counter, with a reasonable speed of execution and maximum throughput.

6.2 FUTURE ENHANCEMENT

In the near future every will definitely going to be a lot busy with their work, family, relatives or friends then having a good diet which helps to keep our body fit and healthy. So in order be a healthy person need to take food, due to our busy life sometimes we forget to take food on time which might lead to different diseases. To overcome this situation order food at particular time for specific time of the day will help us to not be sick and lead a good life.

REFERENCES

[1] Abhishek Singh 1, Adithya R 2, Vaishnav Kanade 3, Prof. Salma Pathan 4 "ONLINE FOOD ORDERING SYSTEM "International Research Journal of Engineering and Technology (IRJET).

[2] Prathamesh Jagannath Mane" Study of Online Food Delivery App like Zomato & Swiggy and their effect on Casual Dining." International Journal of Scientific Research and Engineering Development.

[3] Shweta Shashikant Tanpure* "Automated Food Ordering System with Real-Time Customer Feedback", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 3, Issue 2, February 2013, Department of CSE, J.S.P.M,Pune.

[4] Varsha Chavan, Priya Jadhav, Snehal Korade, Priyanka Teli, "Implementing Customizable Online Food Ordering System Using Web Based Application", International Journal of Innovative Science, Engineering Technology(IJISET) 2015

[5] Kirti Bhandge, Tejas Shinde, Dheeraj Ingale, Neeraj Solanki, Reshma Totare,"A Proposed System for Touchpad Based Food Ordering System Using Android Application", International Journal of Advanced Research in Computer Science Technology (IJARCST 2015).

[6] Ashutosh Bhargave, Niranjan Jadhav, Apurva Joshi, Prachi Oke, S. R

Lahane,“Digital Ordering System for Restaurant Using Android”, International Journal of Scientific and Research Publications 2013.

[7] Khairunnisa K., Ayob J., Mohd. Helmy A. Wahab, M. Erdi Ayob, M. Izwan Ayob, M. Afif Ayob,”The Application of Wireless Food Ordering System” MASAUM Journal of Computing

[8] Online Food ordering Wikipedia: https://en.wi1cipedia.org/wiki/Online food ordering

REPORT

ONLINE FOOD ORDERING USING ANGULAR JS (1).docx

ORIGINALITY REPORT

3%	2%	1%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to University of Northampton Student Paper	1%
2	pdfs.semanticscholar.org Internet Source	1%
3	ijarcce.com Internet Source	<1%
4	www.ijsred.com Internet Source	<1%